

## PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY

MEETING OF FEBRUARY 17, 1931

A regular meeting of the New York Entomological Society was held at 8 o'clock on February 17, 1931 in the American Museum of Natural History with twenty members and eight visitors present. President Andrew Mutchler in the chair.

The minutes of the preceding meeting were read and approved.

Dr. W. S. Creighton, Charles Egri, and Dr. Alfred Weed, were unanimously elected members of the Society.

The secretary read a communication from Mrs. Mary R. Moetz and distributed lists of the collection of lepidopterous and coleopterous specimens of the late George F. L. Moetz which Mrs. Moetz is offering for sale.

Dr. Alfred Weed, of John Powell & Co., Inc., read a paper on "Pyrethrum as an Insecticide." He spoke of the confusion that had always existed in the cultivation and distribution of pyrethrum, because of the lack of standardization. At present the Federal Government recognizes three species, *Chrysanthemum roseum*, *carneum*, and *Dalmatian*. The first cultivation or source for Pyrethrum known was in Persia. Pyrethrum was introduced into Europe in 1850; and soon after that became known in America. The superior flower, *Dalmatian*, grows at a 4,000 to 6,000 foot elevation and has a June blossom which is picked by hand. The third year of growth is the first market crop; the production is increased in the 5th, 6th, and 7th years until the 8th year when it begins to decrease.

The cultivation of it here in the Southern States has been hampered by wire worms and root rot fungi. Dr. Weed spoke of the extensive *roseum* cultivation in Japan which has been steadily increasing since 1881 when it was first introduced. At present Japan is supplying 70 per cent. of the entire pyrethrum crop of the world.

Dr. Weed described the work of Staudinger, McDonald and Rourke, Abbott and others on the toxicity of pyrethrum. It is due to two esters.

He said that pyrethrum had long been used as a household insecticide in combination with a wide variety of solvents, the most valuable of which is petroleum ether. The mist or vapor produced by spraying must be sufficient to reach the insect. Its agricultural use was limited.

Dr. Horsfall asked what types of biological tests had been used in pyrethrum experimentation.

Dr. Weed described the 6 ft. cubic chamber used for spraying flies. The tests are carried over a 6 month period.

Dr. Wileoxan described the reaction of the flies to pyrethrum as being that of a violent combing of the abdomen, while other insecticides produce a stunned reaction.

Dr. Moore spoke on the possibility of oxidation removing the toxic influence. There is little known about this aspect of the subject.

Dr. Pierce questioned the value of the tests when the supply was so variable.

Mr. Curran said he had known pyrethrum in powdered form to be used as an insecticide on cabbage as it was non-poisonous to humans. He found that in using "Pine Oil," the flies died from lack of exercise, while in using pyrethrum, they died from too much exercise.

Mr. Safro spoke of the development of the pyrethrum industry in Japan as compared with the industry in the United States.

Mr. Wuster exhibited dwarf specimens of *Telea polyphemus* and *Samia cecropia*, and a black form of ♀ *Papilo glaucus*.

#### MEETING OF MARCH 3, 1931

A regular meeting of the New York Entomological Society was held on March 3, 1931 at 8 o'clock in the American Museum of Natural History. President Andrew Mutchler in the chair with twenty-one members and seventeen visitors present.

The minutes of the preceding meeting were approved as read.

The program committee announced the program for the next meeting.

The resignation of Mrs. B. Heineman was accepted with regret.

Mr. John D. Sherman, Jr., spoke at some length of the "European Wanderings of an Entomological Bookdealer" from March, 1930, until January, 1931, beginning very auspiciously at Cairo with a cordial reception by Efflatoum Bey, whose fine library and neatly mounted collection of Diptera were greatly admired. In Cairo, Mr. Sherman made his initial book purchase—a set of "Genera Insectorum." Mr. Sherman was interested in seeing the Sharp collection of Dytiscidæ in the British Museum and the Zimmerman Collection of this family at Munich contained in forty-seven boxes, and now offered for sale by Mrs. Zimmerman for 15,000 marks. At Avignon, France, Dr. Guignot was visited. Dr. Guignot's dytiscids are beautifully mounted and he has had Fall's papers on the family as well as Tanner's thesis translated into French. Other entomological collections seen included the very fine collection of European and especially Italian Coleoptera owned by Dr. Luigione, of Rome, Dr. Verity's enormous collection of Palearctic butterflies with huge series showing variations, the Bezzi collection of Diptera purchased together with the Bezzi library by the Museum of Milan for 9,500 lira, the Corporaal collections of Cleridæ in Amsterdam (1,300 species). Mr. Corporaal besides his matchless collection of Cleridæ has nearly all of the literature on the family, part of it in the original form. The superb Lucassen collection of Cetoniidæ was visited. The famous Staudinger establishment in a large villa in the suburbs of Dresden was visited, where beautiful Agrias may be bought at 400 marks each, but also fine, male morphos as cheap as 4 marks.

Many well known entomologists were met on the Continent—Dr. Grandi at Bologna, Dr. Escherich at Munich, Dr. Handschin at Basle, Dr. Roepke at Wageningen, Dr. Schouteden at Tervueren, Mr. d'Orchymont at Brussels,

Dr. Seitz at Frankfort, and Dr. Csiki and the very lovable Dr. Horvath at Budapest. Mr. Sherman commented upon the respect and consideration accorded to the venerable directors of European museums, many of whom are entomologists. Dr. Gestro at Genoa is 85, Dr. Bolivar at Madrid is 80. Dr. Horvath now 85—has only recently retired.

Many wonderful libraries, both private and belonging to institutions were visited, the first one being the Vatican Library in Rome with 500,000 volumes, including 12,000 incunabula, and some 70,000 manuscripts, but practically no entomological books. An opportune visit was made to the Academia Lincei in Rome which has fine library of serials. Other fine libraries visited were those of the museum at Milan, the Museum of Natural Sciences at Madrid, the huge botanical library, including the De Candolle Library (and herbarium) at the Botanical Garden in Geneva, and the library of the Teyler Museum in Haarlem, also very rich in botanical works. The Drory Library of bee books in the Zoological Museum at Berlin was extremely large. In Bologna, Dr. Guercio exhibited the Berlese collection of 267 thick volumes of papers on the Acarina. In Florence, Dr. Verity had many choice and rare books on Lepidoptera, while in Munich Curt von Rosen's Library contained more rare entomological books perhaps than any other private library seen. In Munich, Mr. Tæuber is both an entomologist with a huge collection of Philippine Heteroptera and a dealer in rare old books, with a very fine private library. In Amsterdam Dr. Mac Gillavry, a very genial and hospitable entomologist—also a very busy surgeon—employs three young women to take care of his library; besides his bound books on all animals, he has a huge closet almost entirely filled with papers on Hemiptera which are being prepared for the binder.

Some of the rare books seen for the first time were the first (Folio) edition of Linne's "Systema Naturæ" 1735-1736, the 43 plates of Scopoli's "Entomologia Carniolica," the "Buch der Natur" by Conrad von Megenburg—the first book on natural history published in Germany (Augsburg, 1478), the "Lichtenstein Catalogues" of sales of insects held at Hamburg in 1796 and 1797. In both of these catalogues many new species are described.

The staff of the British Museum (of Natural History) was very cordial. Through the all powerful aid of the "Empire Marketing Board" greatly enlarged quarters have been provided for the insect collections.

The Rothamstead Experimental Station at Harpenden, where Dr. Imms is located, was founded in 1842 and is the oldest existing institution of its kind, the station at Storrs, Conn, being the next oldest.

A very delightful day was spent with Dr. Karl Jordan at the perfect Rothschild Museum at Tring.

Mr. Sherman visited the homes of the Entomological Society of London, and of the Linnean Society of London, which contains Linne's own Library, and herbarium.

In the various book stores, Mr. Sherman found that the very expensive works, including those with finely colored plates were much more in evidence than the standard books used by students. Botanical works were prevalent.

American publications were scarce even in England. On the Continent, purchases were usually made by first consulting a card index of the books in the various "magasins" of the bookstore, from which the books desired were brought to you at the main place of business.

The famous Nijhoff establishment was visited in The Hague. "Les Sapins," the beautiful home of Miss Wytzman, near Brussels, was visited.

An auction at Sotheby's in London was attended. The sales are conducted very informally, and in a manner very different from that of American book auctions.

A very warm welcome both in a business way and socially was extended to the Sherman family by the heads of the leading scientific book shops of Europe—Mr. Chaundy of Dulau & Co., the Wegs of Leipzig, Mr. Williams of Quaritch, Mr. Freymann of Hermann's, and Mr. Loewe of Friedlander's.

Extensive purchases were made, including the large Goeldi Library examined at Bern. There were some lucky "breaks" including several occasions where Mr. Sherman had first pick from catalogues newly printed or in the course of preparation. Some "new species" of book stores, which issue no catalogues, were mentioned quite casually (but not by name).

Several weeks were spent in Berlin, where Dr. Horn's cosy museum, with its very complete bibliographical files and library were constantly consulted and used in preparing Catalogue 31.

Mr. Fiedler spoke of his co-purchase of the famous Goeldi Library with Mr. Sherman. He also commented on Mr. Sherman's good fortune in his personal contact with so many foreign and well-known book dealers.

#### MEETING OF MARCH 17, 1931

A regular meeting of the New York Entomological Society was held on March 17, 1931, at 8:00 o'clock in the American Museum of Natural History. President Andrew Mutchler was in the chair with twenty-three members and five visitors present.

The minutes of the preceding meeting were approved as read.

The program committee reported the program for the next meeting, April 7.

Mrs. Dora Vredenburg, of Freehold, New Jersey, was proposed for membership in the Society.

A communication from the Osborn Zoological Survey, which expects to spend three years in Peru and Bolivia, was read by Mr. Leng.

Dr. W. S. Creighton read a paper on "The Nesting Habits of the New World Ants belonging to the Genus *Solenopsis*." He spoke of the distinction between the crater type of nest which consists of a pile of excavated material containing no passages and the true mound nest in which the excavated material is constructed with passages and used for incubation of eggs and brood. The mound type is used where the warm season is short.

Dr. Creighton then discussed the worker caste in ants. The most primitive exhibit a condition of primary monomorphism. This is followed by the reduction of size of some of the workers resulting in a polymorphic worker caste. Dimorphism is the next condition found in which the workers of

medium size drop out. Finally a condition of secondary monomorphism is achieved in which only the smallest workers, which are much smaller than the queen, remain.

Dr. Creighton spoke of the correlation between the degree of polymorphism and the character of the nest of the New World Species of the genus *Solenopsis*. The most polymorphic (*geminata* and *saevisima*) build large mound nests. The feebly polymorphic species (*xyloxi*, *gayi*, and *bondari*) construct craters or nests under stones or logs without making a mound of any sort. This is also true of the monomorphic species but here are found the twig dwellers, such as *altinodis* and *pieta* and the true thief ants, which lead exclusively subterranean lives and prey upon the brood of the larger ants, which they parasitize. Dr. Creighton pointed out that the occurrence of the New World species could not be satisfactorily explained on the assumption of migration from one common center of distribution, since the most primitive species apparently occupy the center with the intermediate forms at the periphery and the highly specialized species scattered evenly over the whole area.

Dr. Pierce said that he had found all *Solenopsis* predatory.

Dr. Moore mentioned the damage done by *Solenopsis* to young *Citrus germani* in Brownsville, Texas.

Mr. Bromley spoke of his stay at Ohio State University, where he worked on Dr. Hine's collection. He wrote two papers on the Psyllidæ of Ohio as memorials to Dr. Hine. They are to be published in the Museum Bulletin and in the Annals of the Entomological Society of America.

Miss Sherman spoke on the lighter aspects of the Sherman's year in Europe. She mentioned Cairo, Valencia, Paris, and Budapest as being among the high spots.

#### MEETING OF APRIL 7, 1931

A regular meeting of the New York Entomological Society was held in the American Museum of Natural History at 8 o'clock on April 7, 1931, with President Andrew Mutchler in the chair. There were sixteen members and seven visitors present.

The minutes of the preceding meeting were approved as read.

Mr. Nicolay announced the proposed field trip to Greenwood Lake, New Jersey, on Sunday, April 26.

Miss Dora Vredenburg was unanimously elected as a member of the Society.

Mr. Davis read a communication from Mr. Bell, our vice-president in Jamaica. Although 100 specimens of Coleoptera and 100 butterflies have been received by Mr. Mutchler and Mr. Watson, Mr. Bell writes that collecting is unsatisfactory except at sea-level.

Dr. Clyde C. Hamilton, of the New Jersey Agricultural Experiment Station in New Brunswick, N. J., read a paper on the "Control of the Orchid Weevil (*Diorymerellus laevimargo*).'' He introduced Mr. Holmes, President of the Thomas Young Nurseries of Bound Brook, New Jersey, and also Mr. Henderson, the expert botanist of the Nurseries, with whom he had worked

on the orchid weevil. Dr. Hamilton spoke of the orchid industry as being a very specialized one. There are three methods of propagation: by offsets, by division of stems or pseudobulbs, and by the development of the new plant from seeds in a sterile culture of agar in test tubes.

The weevil, *Diorymerellus laevimargo*, in its larval form feeds on the three or four year old roots. The adult beetle does injury to the sheath, to the bud, and to the bloom, the most important of these being done to the roots by the grub. In August and September, Dr. Hamilton began experimenting with different insecticides for their effect on the peat and roots, and later for their effect on the beetle. Paradichlorobenzine was found to be safe to the plant and toxic to the beetle. Quantities of four grams are sprinkled on every plant to prevent infestation. One beetle is found now where before treatment one hundred were found.

Dr. Hamilton said that the beetles are abundant in summer and when the plants are being forced by high temperatures for the Christmas trade, etc.

Mr. Henderson spoke on the progress made in germinating seeds. He mentioned the work of the English hybridists, and said that so far, little work has been done on the physiology and cytology of the orchid. He commented on the demands of social functions which regulate the production of orchids.

Dr. W. D. Pierce spoke on his experiments and observations of temperature and humidity and other factors which go to make up the daily rhythm for all life. He finds that there is a death, sleep, activity, sleep, death cycle on every scale for the Biosphere, for the Atmosphere, for the Geosphere and for the Phytosphere. He spoke of the survey of Ellsworth Huntington in Italy and France on 3,700,000 deaths, as carrying out his conception of the daily rhythm. Dr. Pierce displayed charts and diagrams to explain his theories.

#### MEETING OF APRIL 21, 1931

A regular meeting of the New York Entomological Society was held on April 21, 1931 at 8:00 P. M. in the American Museum of Natural History. President Andrew Mutchler in the chair with twenty members and twelve visitors present.

The minutes of the preceding meeting were approved as read.

The treasurer, Mr. Hall presented a report for April 1, 1931, which was approved and placed on file.

Mr. Adolph Klein was proposed for membership.

Upon the motion of Mr. Curran, it was unanimously voted that the Society go on record as congratulating its fellow member Dr. William Morton Wheeler on the presentation of the Leidy Medal to him by the Academy of Natural Sciences of Philadelphia.

In the absence of Dr. Frank E. Lutz, Mr. Curran read Dr. Lutz's paper "Light as a Factor in Controlling the Start of the Daily Activity of a Wren and Stingless Bees." (Novitates No. 468). Dr. Lutz's observations at Barro Colorado, Canal Zone, resulted in the conclusion that the wren's singing was controlled to a small extent by the appearance of light. The

bees' activity, that is the first flight from the nest, indicated that the bees, like the wren were a combination clock and photometer.

Mr. Schwarz and Dr. Pierce discussed Dr. Lutz's paper.

Mr. Herbert F. Schwarz read a paper on "Nest Habits of the Diplopterous Wasp, *Polybia occidentalis*, sub-species *scutellaris* (White), as observed at Barro Colorado, Canal Zone." (Novitates No. 471). The nest containing approximately 280 cells was built by 130 individuals, no males, in about 5 days. A very apparent division of labor was observed. Together with the building material which is carried to the nest there is a considerable amount of liquid transported to the nest. After completion of the nest it was observed that excess liquid was ejected by the individuals. The cause of this activity is not fully understood. In rain storms both natural and artificial, the wasps take precaution to keep the nest dry. Mr. Schwarz also made extensive observations on the bringing of prey to the nest.

#### MEETING OF MAY 5, 1931

A regular meeting of the New York Entomological Society was held on May 5, 1931 at 8:00 P. M., in the American Museum of Natural History; President Andrew Mutchler in the chair with twenty-four members and fourteen visitors present.

The minutes of the preceding meeting were approved as read. A communication was read from Mr. Rivnay, who is going to Palestine.

Mr. Adolph Klein was unanimously elected to membership in the Society.

Mr. Bell read a communication from Miss Louise Noble stating that she was anxious to collect for entomologists in the vicinity of Hope, Arkansas.

A series of nineteen Articles appearing in "Entomological News" on "North American Institutions featuring Lepidoptera" by J. D. Gunder has been bound into a single volume by the author.

Dr. Charles L. Pollard related some of his experiences in British Guiana during the past winter. He arrived there during the height of the short rainy season, and found Lepidoptera rather scarce. Collecting at light proved entirely unproductive, but banana baits were rather successful in attracting Morphos, Caligos and some nymphalids. Two species of longicorn beetles and one elaterid beetle were also commonly found on baits. Dr. Pollard commented on the fact that certain species were exceedingly local in habitat apparently quite irrespective of the occurrence of the food plant. Comparing the geographical position of British Guiana with the Lower Amazon region, he pointed out that the affinities of many of the Guiana butterflies were with those of Para, 800 miles further east.

An observation on the leaf-cutting ant indicated that the form with large mandibles engaged chiefly, if not entirely, in the operation of leaf cutting, while a smaller form carried away the pieces of leaf after they had been severed.

Various specimens were exhibited the most noteworthy being a *Papilio* mimic of *Helionius*, a saturnid which was found in certain woods only, and a *Castnia*.

Dr. Pollard's remarks were discussed by Dr. Pierce, Lutz, Weiss, Moore and Lacey.

Mr. Frank Johnson commented on Dr. Pollard's experiences and mentioned the beautiful *Copioterius* that Dr. Pollard had brought to him.

Mr. Bell spoke on his trip to Jamaica. The time of year was not conducive to good collecting. Hesperids were found in one area 20 ft. by 6 ft. along a gorge. He observed the interesting flight of moths in waves.

Mr. Curran reported an orange-tail and a skipper seen at Tuxedo, N. Y., in the middle of April.

Mr. Davis gave the following records: The first *Vanessa antiopa* butterfly was seen at St. George, Staten Island, March 21. *Anax junius* dragon flies had arrived on the island by April 13, and were also seen on April 17 and 18. On April 19, a cabbage butterfly was seen flying about at Watchogue and the Red Admiral butterfly that usually appears from hibernation later than *antiopa* was also seen on April 19. These dates would indicate a normal spring.

#### ADDENDA

[Page 301, Vol. XXXIX. Insert before **Gargarini**; inadvertently omitted]

#### **Cocosterphini**

#### **Key to Genera**

- 1(6). Apex of clavus acute; posterior process broad at base, robust, dorsum waved or sinuate with an apical node.
- 2(3). Pronotum covered with tubercles; tegmina not longer than the abdomen ..... †**Cocosterphus** Stal; †**Phærotus** Buckton
- 3(2). Pronotum smooth, not tuberculate; posterior process not reaching apex of clavus or of abdomen; tegmina far surpassing apex of abdomen.
- 4(5). Pronotum gibbous, not compressed; tegmina with four apical cells ..... †**Parayasa** Distant
- 5(4). Pronotum elevated and compressed, strongly convexly amplified anteriorly and posteriorly; tegmina with five apical cells..... †**Insitor** Distant
- 6(1). Apex of clavus obtuse; dorsal line of pronotum straight; tegmina longer than abdomen.
- 7(8). Posterior process broad at base, acuminate, passing apex of clavus; metopidium depressed and strongly sloping posteriorly; tegmina with two discoidal and five apical cells..... †**Kanada** Distant
- 8(7). Posterior process slender, much shorter than clavus and abdomen; metopidium convex; apical angles of mesonotum not spined; tegmina with two discoidal and four apical cells, apical margin oblique, apical angle acute ..... †**Yasa** Distant